

REMARKS

The Office Action mailed November 16, 2006 considered claims 1-51. Claims 1 and 23 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Claims 23-44 were rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1-51 were rejected under 35 U.S.C. 102(b) as being anticipated by Check Point (NPL "Check Point FireWall-1 User Guide", books "architecture and Administration" – AA, and "virtual Private Networking with Check Point FireWall-1"-VP, hereinafter *Checkpoint*.)¹

By this paper, claims 12, 14, 15, 34, 36, 37 have been amended and claims 52-60 are new.² Claims 1-11, 13, 23-33, and 35, have been cancelled. Accordingly, claims 12, 14-22, 34, and 36-58 are pending, of which claims 12, 34, 45, and 58, are the only independent claims at issue.

Embodiments of present invention are directed authenticating computer systems that are connected to and/or communicating with virtual private networks. Claim 1, for example, defines a firewall receiving an assertion from a client that the client has credentials appropriate for accessing a private network resource. Next, claim 1 defines initiating a series of authentication transactions between the client, which is initially unaware that the firewall operates as a gateway for the private network, and the firewall. The series of authentication transactions is designed to impose commensurable processing burdens on the client requesting access to the private network resource and the firewall operating as a gateway for the private network. Successful completion each authentication transaction incrementally increases a level of trust between the client and the firewall.

Next, claim 1 defines for each of the series of authentication transactions between the client and the firewall: 1) sending a challenge to the client, the correct answer to the challenge obtainable from the asserted credentials without having to divulge the asserted credentials such that if the client actually possesses the asserted credentials the client can generate the correct answer, 2) receiving a response from the client including an answer to the challenge, and 3) verifying whether or not the answer included in the response the correct answer to the challenge. Lastly, claim 1 defines that when an acceptable level of probability that the client actually possesses the asserted credentials is reached based on a plurality of correct answers, the firewall grants the client access to the private network resource through the firewall

Claim 34 is a computer-readable media claim corresponding to claim 12.

¹ Although the prior art status of the cited art is not being challenged at this time, Applicant reserves the right to challenge the prior art status of the cited art at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.

² Support for the amendments to the claims are found throughout the specification, Figures, and previously presented claims, including, paragraphs [018]-[020], [036]-[043], [060], and Figure 5.

Claim 45 defines receiving at a firewall, an access request from the client that is directed to the server because the client does not know that the firewall operates as a gateway for the server. Next, claim 45 defines generating one or more authentication credentials at the firewall that demonstrate a level of trust between the server and the firewall. Next, claim 45 defines the firewall sending a request for the client to authenticate to the firewall. The request includes the one or more firewall authentication credentials so that the client knows of the level of trust between the server and the firewall without having to make a separate request. Next, claim 1, defines receiving at the firewall, one or more authentication credentials from the client. Next, claim 45 defines the firewall verifying the one or more client authentication credentials. Lastly, claim 45 defines allowing the client to access the server through the firewall.

Claim 58 is a computer-readable media claim corresponding to claim 45.

Applicant respectfully submits that the cited art of record does not anticipate or otherwise render the amended claims unpatentable for at least the reason that the cited art does not disclose, suggest, or enable each and every element of these claims.

Chapter 1 of the architecture and Administration (or "AA") portion of *Checkpoint* describes authentication at a firewall. (page 27). Various different types of authentication including user authentication, client authentication, session authentication, and transparent authentication and their corresponding features are described. (pages 28-29). Further, the different types of authentication can be implemented using various different authentication schemes. (page 30).

When a request is directed to a server, a firewall can be invoked to mediate a connection to a server (page 31). The user can submit credentials to the firewall and then, if the firewall credentials are appropriate, be connected to a server for further authentication. (pages 31-32 and 39-41). Alternately, a request can be sent directly to the firewall to gain access to the server. (pages 42-44). Thus, the AA portion of *Checkpoint* essentially describes that gaining access to a server may require two separate logins, potentially based on two different sets of credentials, for example: 1) a login to a firewall and 2) a separate subsequent login to the server.

However, completing authenticating with either the firewall or the server includes receiving a request for server access, returning a request for credentials, receiving credentials, and processing the credentials. If the credentials are appropriate, the user is allowed to subsequently login at the server (authenticated at firewall), or is given server access (subsequently authenticated at server). If not the user is denied access. No other authentication related decisions are made.

Thus, the cited art fails to teach either singly or in combination for each of a series of authentication transactions sending a challenge to the client, the correct answer to the challenge

obtainable from the asserted credentials without having to divulge the asserted credentials such that if the client actually possesses the asserted credentials the client can generate the correct answer and wherein when an acceptable level of probability that the client actually possesses the asserted credentials is reached based on a plurality of correct answers, the firewall granting the client access to the private network resource through the firewall, as recited in claim 12, in view of the other limitations of claim 12. For at least this reason, claim 12 patentably defines over the art of record. For at least the same reason, claim 34 also patentably defines over the art of record.

Further, in *Checkpoint*, each of the firewall and server are individually responsible for their own processing. Neither can make authentication related assertions for or based on information associated with the other. Thus, while the firewall can interpose itself between a client and a server, the firewall can not assert to the client that it is trusted by the server or vice versa.

Thus, the cited art also fails to teach either singly or in combination generating one or more authentication credentials at the firewall that demonstrate a level of trust between the server and the firewall and the firewall sending a request for the client to authenticate to the firewall, the request including the one or more firewall authentication credentials so that the client knows of the level of trust between the server and the firewall without having to make a separate request, as recited in claim 45, in view of the other limitations of claim 45. For at least this reason, claim 45 patentably defines over the art of record. For at least the same reason, claim 58 also patentably defines over the art of record.

Since any dependent claims depend from one of the independent claims 12, 34, 45, or 58, each of the dependent claims also patentably define over the art of record at least for the same reason as their corresponding base claim. However, a number of dependent claims also independently distinguish over the art of record. For example, the cited art also fails to teach either singly or in combination the limitations recited in claims 52-57 and 59 and 60.

Claims 1 and 23 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Claims 1 and 23 have been cancelled rendering this rejection moot. Accordingly, Applicants respectfully request withdrawal of 35 U.S.C. 112, first paragraph rejection.

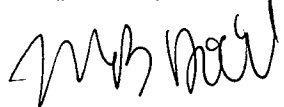
Claims 23-44 were rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. More specifically, the claims are not limited to tangible embodiments. Claims 23-33 have been cancelled rendering the rejection of claims 23-33 moot. Claim 34 has been amended to recite "physical recordable-type computer readable media". Applicants submit that this language causes claim 34 to recite a tangible embodiment. Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. 101 rejections.

In view of the foregoing, Applicant respectfully submits that the other rejections to the claims are now moot and do not, therefore, need to be addressed individually at this time. It will be appreciated, however, that this should not be construed as Applicant acquiescing to any of the purported teachings or assertions made in the last action regarding the cited art or the pending application, including any official notice. Instead, Applicant reserves the right to challenge any of the purported teachings or assertions made in the last action at any appropriate time in the future, should the need arise. Furthermore, to the extent that the Examiner has relied on any Official Notice, explicitly or implicitly, Applicant specifically requests that the Examiner provide references supporting the teachings officially noticed, as well as the required motivation or suggestion to combine the relied upon notice with the other art of record.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney at (801) 533-9800.

Dated this 16th day of February, 2007.

Respectfully submitted,



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